REMARKS

Favorable reconsideration of this application is respectfully requested.

Claims 1-16 and 18-20 are pending in this application. Claims 17 and 21-29 are herein canceled without prejudice. Claims 3-9, 11, and 16-29 were withdrawn from consideration. Claim 5 was rejected under 35 U.S.C. § 112, second paragraph. Claims 1 and 2 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. patent 6,055,985 to Bae et al. (herein "Bae"). Claims 5, 14, and 15 were rejected under 35 U.S.C. § 103(a) as unpatentable over Bae. Those rejections are traversed by the present response as discussed next.

Addressing first the rejection of claim 5 under 35 U.S.C. § 112, second paragraph, claim 5 is herein amended to clarify the language noted as unclear. Specifically, claim 5 now recites "calculating an injected quantity of the liquid as the area of a chart between said injection graph and said horizontal axis". That subject matter is shown, as one non-limiting example, in Figure 10 in the present specification. As shown therein an injected quantity of a liquid is the area between the injection graph, for example drawn by an operator, and a horizontal axis, i.e. is the shaded area underneath the drawn injection graph. The amendment to claim 5 is believed to clarify the language therein and to address the rejection under 35 U.S.C. § 112, second paragraph.

Addressing now the rejection of claims 1 and 2 under 35 U.S.C. § 102(b) as anticipated by Bae, and the further rejection of claims 5, 14, and 15 under 35 U.S.C. § 103(a) as unpatentable over Bae, those rejections are traversed by the present response as now discussed.

Independent claim 1 is amended by the present response to further recite "a touch panel that displays data and accepts input actions". Independent claim 1 also clarifies the "plotting chart image" is displayed "on the touch panel", and the input action that can be accepted is also made "on the touch panel", and further the image of the entered injection

graph can be displayed "on the touch panel". The above-noted features are believed to be clear from the original specification, see for example the noted touch panel 105.

According to features reflected in the claims as currently written, a liquid injector for injecting at least a liquid includes a touch panel that allows an operator to enter an injection protocol by entering (plotting) an injection graph to a plotting chart image on the touch panel. For example as shown in Figure 7 in the present specification, an operator can utilize a write pen 108 to enter an injection graph on the touch panel, and in the embodiment of Figure 7 in the form of a free curve. The injection graph can also be entered as a plurality of passing points (specification at page 23, lines 15-21), a plurality of rectangular regions, as shown in Figure 13, etc.

The benefit realized with the operation in the claimed invention is that a complex liquid injection protocol for injecting a liquid at an injection rate that changes with time can be easily and precisely entered by a operator.

Applicants respectfully submit the features clarified in the claims directed to including a touch panel and allowing the display of a plotting chart image on the touch panel, accepting an input action to enter an injection graph having chronologically changing injecting patterns into the displayed plotting chart image on the touch panel, and displaying the entered injection graph on the touch panel, are neither taught nor suggested by Bae.

Bae in Figure 11 discloses a liquid injector including a power head 22 for accepting a syringe containing a contrast medium and a control console 24 that may be LCD display to provide for operator input and control of the injector.[1] The contrast medium injector of Bae is programmed to provide an injection program that is a representation of an ideally defined exponential curve with an initial injection rate decaying at an exponential rate (see for example the Abstract of Bae). In the injector of Bae injection parameters are entered in

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[1] Bae at col. 11, lines 34-38.

phases, and such parameters can be displayed on the console 24, and the operator can change the values of the parameters.[2] In Bae the operator can enter an exponential coefficient in an elapsed time to define an injection protocol.[3]

Applicants submit such disclosures in Bae do not, however, correspond to the claimed features. Bae does not disclose or suggest the use of a touch panel as claimed, and particularly Bae does not disclose or suggest that a plotting chart image is displayed on the touch panel, an input action to enter an injection graph having chronologically changing injection conditions can be accepted on the touch panel, and further the entered injection graph is then displayed on the touch panel. Again with respect to Figure 7 in the present specification as a non-limiting example, on a touch panel a plotting chart image can be displayed, and an operator can enter an injection graph into the touch panel, which is then displayed on the touch panel. The operator can enter such an injection graph for example by drawing a free curve, entering a plurality of passing points, or by a plurality of rectangular regions, each of which allows the operator to easily and precisely enter a liquid injection protocol for injecting a liquid at a desired injection rate with time.

In view of the foregoing comments, applicants respectfully submit independent claim 1 as currently written positively recites features neither taught nor suggested by Bae. Thereby, applicants respectfully submit the claims as currently written are allowable over Bae.

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[2] Bae at col. 11, lines 40-44.
[3] Bae at col. 11, lines 50-51.

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As no other issues are pending in this application, it is respectfully submitted that the

present application is now in condition for allowance, and it is hereby respectfully requested
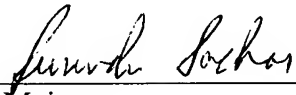
that this case be passed to issue.

Respectfully submitted,

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